🌌 An Introduction to the Mathematical Theory and Core Concepts of the Theory of Entropicity (ToE): A Definitive Mathematical Introduction to a New Physics

The Theory of Entropicity (ToE)—developed by John Onimisi Obidi—enters a new phase with Letter IV, the first full Mathematical Monograph Edition of the ToE Living Review Letters Series. This work lays down the complete mathematical and conceptual foundation for a physics built not from particles or fields, but from entropy as the fundamental field of nature.

Explore the core idea: Entropy as the Primitive Field

📘 A Five-Part Foundational Reference Work

Letter IV, Part I — The Revolutionary Inversion

This monograph begins with a bold inversion:

1. Entropy is not emergent. Entropy is fundamental.
2. From this starting point, ToE constructs a rigorous mathematical pathway showing how:
3. Information geometry becomes Lorentzian spacetime
4. Entropy gradients generate the arrow of time
5. Entropic distributions produce the stress–energy tensor
6. Einstein's field equations emerge as a limiting case of a deeper entropic field theory

Learn more: Information Geometry → Spacetime

🧭 Why This Monograph Matters

A Complete Mathematical Toolkit for ToE

Letter IV develops every mathematical prerequisite needed for the full theory:

1. Smooth manifolds, tangent and cotangent bundles
2. Tensor calculus and curvature
3. Fiber bundles and fiber integrals
4. Statistical manifolds and Fisher–Rao geometry
5. Kinetic theory and moment tensors

These tools allow ToE to map entropy → information geometry → Lorentzian metric → curvature → Einstein gravity in a single coherent chain.

Dive deeper: Fiber Integrals in ToE

⚙️ The Core Innovation: The Obidi Transformation

Breaking Čencov Invariance to Produce Physical Spacetime

Letter IV introduces the Obidi Transformation, a mathematically precise deformation of the Fisher–Rao metric using an entropy-derived anisotropy tensor. This transformation:

1. breaks the uniqueness constraint of Čencov's theorem
2. selects a physical metric from the statistical manifold
3. yields a Lorentzian signature
4. produces curvature that matches Einstein's equations in the IR limit

Explore: Obidi Transformation

🌐 From Entropic Microstructure to Einstein Gravity

The Master Entropic Equation (MEE)

The monograph shows that:

1. The left-hand side of Einstein's equations (curvature) arises from the Obidi Metric
2. The right-hand side (stress–energy) arises from the second moment of entropic distributions on momentum fibers
3. The full Einstein field equations appear as the infrared limit of the Master Entropic Equation (MEE)

This is not analogy. It is a derivation.

Learn more: Information → Stress–Energy

📚 A Monumental Scholarly Contribution

Letter IV as the Gateway to the Full ToE Architecture

Parts II to V develop:

1. The Obidi Action
2. The Master Entropic Equation
3. The Obidi Metric and Curvature Invariant
4. The Entropic Stress–Energy Tensor
5. The Obidi–Einstein Correspondence
6. Cosmology, dark energy, and experimental pathways

🔖 Ref: ToE Canonical Archives

1. https://www.linkedin.com/posts/theory-of-entropicity-toe_an-introduction-to-the-mathematical-theory-activity-7468555864304517120-6aig?utm_source=share&utm_medium=member_desktop&rcm=ACoAAAJgE3gBmSb_wGHRH3mJEKgi3aBoI3cxwOk

2. The full Theory of Entropicity Living Review Letters Series is available at: https://entropicity.github.io/Theory-of-Entropicity-ToE/ (**entropicity.github.io**)